Digital Image Processing

LabWork #CV2

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* Using the given CPixel class, design a program with the following stops :

1.

* 1. Make histograms of each input image after converting to gray scale images

(Input:A=lenna.jpg, B=stuff\_color\_1.jpg file in given materials)

|  |  |  |  |
| --- | --- | --- | --- |
| **Input** | | **Output** | |
|  |  |  |  |
| code | | | |
|  | | | |

* 1. Make equalized images of each input images (hint: use GS\_histeq function)

|  |  |  |  |
| --- | --- | --- | --- |
| **Input** | | **Output** | |
|  |  |  |  |
| code | | | |
|  | | | |

* 1. Make equalized histograms of each equalized image (A\_equlizedHist, B\_equlizedHist)

|  |  |  |  |
| --- | --- | --- | --- |
| **Input** | | **Output** | |
|  |  |  |  |
| code | | | |
|  | | | |

* 1. Open the project folder to check output images

Compare original(grayscale) image and equalized image

(A\_originalImg vs A\_equlizedImg, B\_originalImg vs B\_equlizedImg)

Compare original histogram and equalized histogram

(A\_originalHist vs A\_equlizedHist, B\_originalHist vs B\_equlizedHist)

2.

* 1. Convert an image to gray scale images (Input : A = lenna.jpg)

|  |  |
| --- | --- |
| **Input** | **Output** |
|  |  |
| code | |
|  | |

* 1. Threshold the image with threshold value 150 (Threshold type : THRESH\_BINARY)

|  |  |
| --- | --- |
| **Input** | **Output** |
|  |  |
| code | |
|  | |

* 1. Threshold the image with threshold value 0

(Threshold type : THRESH\_BINARY | THRESH\_OTSU)

|  |  |
| --- | --- |
| **Input** | **Output** |
|  |  |
| code | |
|  | |

* 1. Adaptive threshold the image with maxvalue 150

(Adaptive method: ADAPTIVE\_THRESH\_MEAN\_C, Threshold type : THRESH\_BINARY)

|  |  |
| --- | --- |
| **Input** | **Output** |
|  |  |
| code | |
|  | |

* 1. Open the project folder to check output images

Compare the results of above steps